

Unit 3 Plan

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 Grade: 9
 Subject: Algebra 1

Designed in School Year: 2010-2011
 Unit: Graphing Linear Equations
 Estimated Timeframe: 4 weeks

Unit topic and subtopics	Essential Learning	Standards	Assessments	Strategies
Graphing Linear Equations	<p>Understandings (Students will understand that):</p> <ul style="list-style-type: none"> • Tables, graphs and equations are useful in representing and investigating relationships between varying quantities. • Changes in varying quantities are often related by patterns which, once discovered, can be used to predict outcomes and solve problems. <p>Skills (Students will be able to):</p> <ul style="list-style-type: none"> • solve a one-step linear equation (using addition/subtraction and multiplication/division) • solve a two-step linear equation • solve a multi-step linear equation (combine like terms, use distributive property) • solve an equation with variables on both sides • rewrite an equation (solve for y: $3x + 4y = 8$) or formula • solve a word problem using ratios and percents • solve a proportion (using cross-multiplication) • solve a percentage problem 	<p>Illinois State Standards:</p> <p>8.B.4a 8.B.4b 8.C.4a 8.C.4b 8.D.4</p> <p>College Readiness Standards:</p> <p>Expressions, Equations, & Inequalities (20-32)</p> <p>Basic Operations & Applications (33-36)</p> <p>Graphical Representations (16-36)</p>	<p>Anchor Performance Assessment:</p> <p>Task Overview: Exhibit mastery of skills presented in this unit by providing written solutions to a variety of algebraic problems.</p> <p>Products: Comprehensive written exam assessing the skills practiced in this unit.</p> <p>Criteria: An exam score below 69.5% is failing. An exam score of 69.6%–76.4% is below average, 76.5%–84.4% is average, 84.5%–92.4% is above average, and 92.5% or above is excellent.</p> <p>Other Key Assessments/Evidence: Frequent quizzes assessing the skills practiced in this unit.</p>	<p>Homework assignments, class discussion, small group activities</p> <p>Tests and quizzes</p> <p>Oral participation: Students both ask and answer questions posed by the teacher and other students</p> <p>Notebook entries which include the results of:</p> <ul style="list-style-type: none"> • demonstrations: students working individually, in pairs, or in groups demonstrate ideas using manipulatives, graph paper, calculators, or whiteboard • non-routine problems: the student restates the problem in his own words, explores the problem by drawing a picture or a chart, chooses a strategy such as guess and test, looks for a pattern, logical deduction, working backward, or exhaustive listing, and carries out the chosen strategy to solve the problem • error analysis and commentary, in which students keep a list of specific homework, tests, and quiz problems that resulted in errors; the format includes a statement of the problem as posed, a statement of the exact error made, and a correction and comment
Writing Linear Equations	<ul style="list-style-type: none"> • write a linear equation in slope-intercept form • write a linear equation in point-slope form • write an equation in slope-intercept form • write an equation of a line that is parallel or perpendicular to a given line • determine the equation of a line of best fit (using Excel) 	<p>Common Core Standards:</p> <p>A-REI.10 F-IF.7</p>		